2. Bridgeposts

Program Name: Bridgeposts.java Input File: bridgeposts.dat

The engineers have decided to build a bridge between Key West, FL, and Cuba, and would like to know where to put the pillars that would support the bridge. They would, in fact, like to put the pillars in the shallowest water possible. A number of sailing boats and cruise ships (`N` of them) were going directly between Key West and Cuba, in a straight line; they all started at Key West, but not all went all the way to Cuba. Some returned after going a few miles. The distance traveled from Key West towards Cuba was `M` miles. They were all asked to measure the depth of the water (in fathoms) every mile, and report back the point of shallowest water to the engineers at Key West. This way, although they were all measuring the same depths at points along the same route, the engineers could cross-check the data for accuracy. Ship `i` traveled `s[i]` miles and made `s[i]` depth measurements (`1 <= i <= N`).

Please use the depth data provided to determine the depth of the shallowest water.

Input

The first line has the number of test cases, T. `4*T` lines follow, as each test case has 4 lines.
The first line of each test case contains an integer `M`, the distance traveled towards Cuba from Key West.
The second line contains `M` space-separated integers `d[1], d[2] …d[M]`, the depth of the water at each mile from the starting point Key West.
The third line contains `N`, the number of ships.
The fourth line contains N space separated integers, the number of depth measurements made by each ship, `s[1], s[2], …, s[N]`.

Output

The output should have a single integer for each test case, the smallest depth measurement made by all the ships.

Example Input File

```
2
5
3 4 1 5 2
3
1 3 2
6
6 5 4 3 2 1
1
4
```

Example Output to Screen

```
1
3
```

Explanation of the first test case

The distance is 5.
The depth 1 mile out is 3, the second mile out is 4, third mile out is 1, and so on.
There are 3 ships that go 1, 3 and 2 miles respectively.
The shallowest depth each ship measures is 3, 1, and 4 respectively. So the depth of the shallowest water encountered is measured by the second ship, at the third mile, and equals 1 fathom.